Strategies

What Is Household Hazardous Waste?
Why Is It a Problem?
What's a Practical Response of Community Government?

Many common household products contain hazardous substances. These products become household hazardous waste HHW once the consumer no longer has any use for them. The average U.S. household generates more than 20 pounds of HHW per year. As much as 100 pounds can accumulate in the home, often remaining there until the residents move or do an extensive cleanout.

Hazardous waste is waste that can:

- Catch fire
- React
- Explode under certain circumstances;

or waste that is

- Corrosive or toxic.

The U. S. Environmental Protection Agency and the Indiana Department of Environmental Management have set stringent requirements for the management of hazardous waste generated by *industries*. But hazardous waste generated by *households is* not subject to any special regulations -- it's simply not practical to regulate every household. Instead, control of HHW depends on public education and cooperation, and constant reminders of the importance of using and storing HHW properly and disposing of it in a way that does not harm the environment.

Toxicity reduction. Government and industry are working to develop consumer products containing lower levels of hazardous ingredients or none at all. Some of these efforts are achieving significant results. For example, over the past few years manufacturers of alkaline batteries have reduced the mercury content of these common household batteries to virtual zero. Latex paints once contained mercury as a mold inhibitor but no longer do.

But many other essential products containing hazardous substances cannot be reformulated and still work: automobile batteries must contain lead and acid - there's no alternative. Photographic chemicals must contain certain toxics. There are scores of other examples, so communities will continue to need effective HHW management programs. And even if all newly manufactured household products were rendered hazard-free today, it would take years to clear our cellars and garages of the hazardous products stored from old projects many seasons ago.

The problem. The problem, of course, is the potential harm that household hazardous wastes can do to the environment--clean air, clean water. HHW also endangers workers. Every year, garbage truck crews are injured by hazardous materials carelessly thrown in the trash. Many HHW items, when brought in contact with heat, pressure, or other chemicals, can combust, explode, or create hazardous gases. Sewage treatment plant workers may be exposed to high levels of toxic chemicals and gases as hazardous wastes pass through the treatment system.

Disposal of HHW in municipal solid waste management facilities such as landfills, incinerators, and waste-to-energy plants is believed to represent a significant threat to air and water quality, if not today then in the future. For example, although landfills are designed and built to reduce the risk of leakage to very low levels, even landfill engineers acknowledge that there is no absolute guarantee against leakage at some time in the future. And when landfills do leak, the leachate might contain some of the environmentally nasty materials that have been buried over the years –pesticides, paint thinners, poisons, heavy metals. The possible bad effect on groundwater quality is easy to understand.

HHW programs can benefit communities in several important ways. They can:

- Reduce the risks to health and the environment resulting from improper storage and disposal of HHW;
- Reduce communities' liability for the cleanup of contamination resulting from improper HHW disposal;
- Increase community residents' awareness of the potential risks associated with HHW and promote better informed purchasing decisions.

Many communities have established programs to manage HHW. The number of HHW collections in the United States has grown dramatically over the last decade. Since 1980, when the first HHW collection was held, more than 3,000 collection programs of various kinds have been documented in all 50 states. As the numerous examples in this manual will indicate, Indiana communities are both active and innovative in HHW management.

What's a practical response of community government? Community planners of HHW management programs in Indiana should be aware of several broad trends:

- **Cooperative, interlocal programs.** Because HHW management is expensive, and because the economies of scale apply to this field as to any other. Indiana communities are growing interested in working cooperatively with one another in the development of new and more widely available HHW services. Several examples of cooperative programs appear in this manual:

--"Regional Cooperative Household Battery Collection in Southwestern Indiana"
--"Multi-District, Mobile HHW Collection & Transport Unit in Northwest Indiana"
-- Agricultural Chemical Exchange Program of the West Central Solid Waste District"

- **Removal of latex paint and motor oil from the standard HHW management loop.** Historically, latex paint and used motor oil have been the most common items brought to HHW collections. Because of the big expense associated with managing the large volumes of these materials in the standard HHW management loop; and because acceptable alternative management methods are becoming available, some communities have designed special programs for latex paint and used motor oil. For example, there's growing interest in setting up "paint swap" programs to encourage the reuse of good material - an example appears at "Special Programs" section; and commercial oil recyclers are participating in HHW collection events to directly receive used motor oil. The expense to the local sponsor may be little or nothing.

• **Emphasis on the exchange and reuse of HHW products before placing them on the costly disposal track.** This approach is becoming a routine part of the counseling that local residents receive when they call solid waste district offices for information about tox-away services. "Have you thought about giving those pesticides to a neighbor?" the district staff person inquires. It's gratifying to learn that this kind of friendly advice actually gets results: HHW that was destined for costly disposal instead is passed along to a new user at no cost.

• **Growing awareness- that an occasional tox-away day is not the only possible community solution to HHW.** Tox-away days have been a very popular first step toward gaining better control of HHW. As community educational tools, tox-away days can be quite effective. But they are also very expensive compared to the amount of HHW collected. Depending upon what the community wishes to accomplish - and, realistically, upon the size of the budget - other approaches to HHW management may be equally valid. This publication is designed to illustrate some of the possibilities, relying heavily on programs currently in effect in Indiana.

What do you want to achieve? An HHW management program can be governed by any number of practical concerns ranging from very sharply focused objectives to broad-based, long-term goals. Here are some examples of possible program objectives:

- To raise public awareness about HHW, beginning with a bi-weekly newspaper column (space donated at no charge by the local newspaper).
- To round up all the old HHW from all the basements and garages in town, lab-pack every item, and send it off for high-tech disposal (at enormous expense).
- To motivate 100 community do-it-yourselfer's to take their dirty motor oil to recycling collection at local service stations (promoted with leaflets you've printed at little cost) .
- To set up a paint-exchange.
- To hold a tox-away day as the first event in a long-term HHW campaign.
- To do whatever you can up to a budget ceiling of $8,000 (for example).
- To cut HHW in the local waste stream by X% over 12 months with an educational campaign and collection/reuse options, verifying results with before-and-after waste characterization studies.
- To set up a permanent HHW collection program.
- To reach residents as they move into and out of houses and apartments - a peak throw-it-away time for HHW.
- To close the loop by enlisting community retailers and manufacturers in take-back programs.

As these examples suggest, there are many ways to provide a community with effective HHW services. Though programs vary, most include both educational and collection/reuse components. Most of the various kinds of HHW programs are represented in Indiana. These established good efforts provide valuable examples for all communities that are planning to begin HRW management programs. As the number of programs continues to grow, public awareness about HHW also will grow, and the environmental problems associated with improper storage and disposal of household hazardous wastes are-likely to decrease.